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### Dissertation on pneumonia

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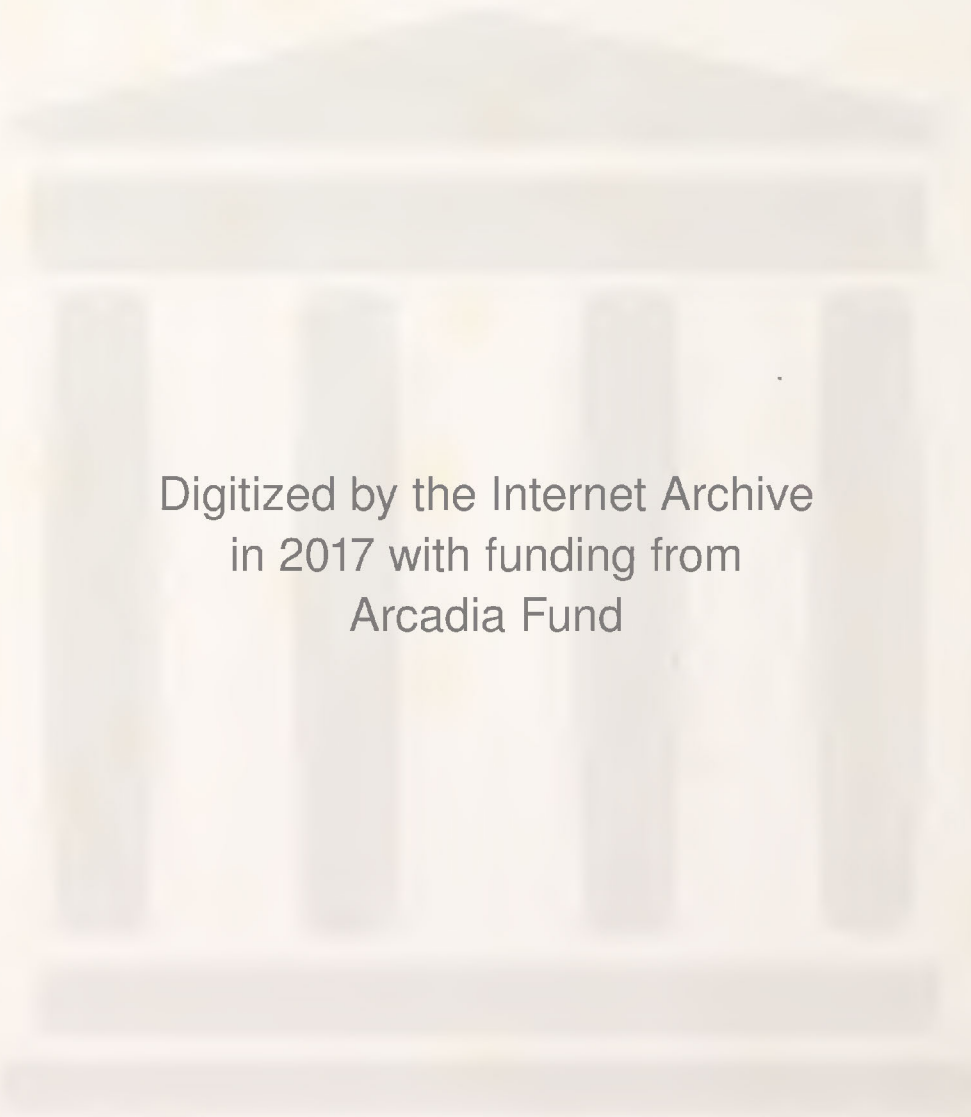
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*Pneumonia,*

*by*

*Cyrus Edwards Humiston,*  
*of Cheshire Conn.,*

*Candidate for the Degree of Doctor of Medicine.*



## Pneumonia.

This is one of the most important Diseases with which the Physician has to contend. It may occur at any period of life, but more commonly attacks those in the middle period, and of a sanguine and phlegmatic habit. Under the general term of Pneumonia, the ancient writers comprehended every inflammation to which the thorax was liable; but the term is at present confined to an inflammatory affection of the Parenchyma of the Lungs, and is commonly divided for convenience into the Acute, the Chronic, and the Typhoid.

The term Lobular Pneumonia is also applied to the affection when the attack is confined to only one of the



Lobes of the lung, Singular when existing in but one side of the chest, and Double when both Lungs are implicated. Acute Pneumonia presents during its course three clearly defined stages. These are first, the stage of Engorgement, second the stage of Hepatization, and lastly the stage of Suppuration.

#### Causes.

Like the Phlegmureia in general, the most common causes are exposure to cold and moisture, sudden alternations of temperature, and in the opinion of some authors hereditary predisposition, and certain Epidemic influences. It is also an occasional result of Pleurisy.

#### Symptoms.

These are, in the acute variety of the affection, well marked rigors, pains in the back and limbs, a feeling of oppression of the chest, and the general indications of the early stage of Fever.

This is succeeded after a period of variable duration, by flushes of heat, pains of the thorax, laborious respiration, and cough. The pain is usually of a dull oppressive character, the pulse tense, full, and frequent, the cough peculiarly ineffective and unsatisfactory. The expectoration is at first scanty and colorless, but soon becomes more copious, viscid, and heavy, and changes in color to a reddish brown from admixture with blood, constituting the "Rusty Sputum" so uniformly mentioned in the Literature of the Disease. Not unfrequently however, several of these symptoms are wanting, and the Diagnosis is difficult without a resort to Physical exploration, the signs furnished by which deserve the highest consideration, The Stethoscope here demonstrating its value as an aid to Diagnosis, and

leading to conclusions which are rarely erroneous. In the stage of Engorgement, percussion yields a dull sound beneath the Scapula or at the side, the respiratory murmur is feeble, and crepitation becomes less perceptible, and the bronchial sound more evident, both from the cessation of the vesicular sounds, and the superiority of the solidified, over the healthy Lung, as a conducting media of sound. Where resolution occurs, these sounds reverse their course, and the crepitant sound ushers in the normal respiratory murmur. When the disease advances to the second, or stage called by Laennec that of red hepatization, the Bronchophony becomes more perceptible, and constitutes more particularly the distinguishing sign of this stage of the affection. In this stage the dulness on percussion is more marked. The



tubular sound is more clear during expiration, because the pressure of the respiratory muscles tends still farther to condense the Lung, thus exalting its power as a conductor of sound. Third Stage or Stage of Suppuration. In this stage, percussion is less dull from the fact that the consolidation begins to give way to suppuration, and some amount of air reenters the diseased structure. For the same reason, the respiration sounds less tubular, and ronchi can be heard in various parts of the chest. These ronchi are usually mucous, from the presence of the purulent matter with which the lung is infiltrated. The advent of the third stage is apt to be heralded by a sense of coldness amounting in some cases to positive rigors. The expectoration is thin and dark,

6  
resembling foam juice. Bubbles occa-  
sionally form and are indicated by  
the gurgling of the air as it passes  
through the liquid.

### Diagnosis.

This is usually easy. The disease is  
distinguished from Pleuritis by the  
character of the pain, this being in  
Pleurisy acute and lancinating rather  
than heavy and oppressive. The friction  
sound caused by the rubbing together of  
the pleuritic surface is also absent  
in uncomplicated Pneumonia, and  
the dulness on percussion in the latter  
disease does not change its locality  
with the posture of the patient  
as in Pleurisy. The peculiar brick-dust  
color of the sputa is clearly indicative  
of pulmonary inflammation. Pleu-  
ritis sometimes runs so rapidly as to  
be mistaken for Pneumonia, from which however it can  
be discriminated by the want of the

crepitant rale, and the absence of dullness on percussion.

### Chronic Pneumonia.

This may be either a consequence of the acute variety, or may supervene on Bronchitis, Asthma, or the eruptive diseases. The occurrence of suppuration is indicated by pain of the chest of a sharp and throbbing kind, with Dyspnea, dry cough, periodical chills and hectic fever. The expectoration of pus is often enormous from the sudden bursting of an abscess, placing the patient in danger of suffocation. Amelioration of the symptoms is occasioned by this discharge, and from this period the patient sometimes dates the commencement of his convalescence. Occasionally the disease proceeds even more rapidly than before. The pulse is hurried, there are colligative sweats, and gradually progressing emaciation and



debility undermine the system, which at last gives way, and death by Asthenia closes the scene. This form of the disease is less amenable to Medication than the acute, and constitutes the "Spontaneous Phthisis" of Dr. Duncan, and when of short duration the "Falloping Consumption" of the vulgar.

### Typhoid Pneumonia.

Since the year 1806, Pneumonia has been frequently observed to appear as an Epidemic, and attended by an Asthenic or Typhoid condition of the entire system. This disease is described by Dickson, ("Elements of Medicine") who was the first to give it an extended notice, as an inflammatory affection of the Thoracic Viscera associated with that impairment of the sensorial, and morbid state of vascular action, which characterizes Typhoid Fever. At the time above mentioned, it appeared at Medford, Mass,

and was attended with great mortality. In 1813 it appeared at Philadelphia, in 1806 in South Carolina. It continues to show itself wherever it has once found a footing. This Disease was at first thought to be new, but is now considered as nearly, if not quite identical with that described by Burne, Stokes, and other English writers as Spotted fever. As observed in the United States, however, the eruption of the skin is not a constant symptom, and is seldom noticed in specimens of the Disease at the present time. Implication of various organs by Sympathy, besides the Lungs, is one of the peculiarities of this Disease, and at first led to considerable confusion in its description, some regarding it as a true Pulmonitis, while others discarded it from any regular classification, regarding it rather as a



Hybrid malady, constantly changing its manifestations, and difficult to treat as a distinct Affection. Thus, as rigors, or headache, or Hepatitis, became the predominant symptom, the Epidemic was called the "Cold Plague," the "Head Pleurisy," and the "Bilious Pleurisy." But for the reasons previously stated, the term Typhoid Pneumonia is perhaps unexceptionable. Its exciting causes are those which develop acute Pneumonia, while a predisposition to its attack exists in those circumstances which depress the vital energies, as want of cleanliness, insufficient or unwholesome food, a Confined or impure atmosphere, excessive fatigue &c. The symptoms are those of the febrile accession, presenting however, some peculiar modifications. The cold stage is commonly protracted. Following this is intense pain of the head,

back, chest, and limbs. The state of the skin is variable; being in some instances, hot and dry, and in others moist. The pulse is small, frequent, and compressible; the Respiration is laborious, as if a heavy burden oppressed the thorax. Along with this, there is dry cough, and great prostration of strength. If the disease tend to Resolution, about the tenth day there is a mitigation of the Symptoms: the pulse grows fuller, the expectoration is more free, the dyspnea less urgent, and convalescence becomes established. In less favorable cases, however, as the affection proceeds, the teeth and mouth become covered with sordes, the Dyspnea increases, delirium and coma intervene, the pulse becomes weak and fluttering, and the disease runs rapidly to a fatal termination. The Physical signs are dullness on percussion, as in ordinary Pneumonia, with a hardly audible Respiratory murmur.



### Prognosis.

This is to be deduced from the circumstances attending the case. The affection is of course more grave the further it advances, and beyond the third stage the chances of recovery are very slight. The same may also be said where the Physician is called late, and the patient destitute of proper care and nursing, as is too frequently the case among the poorer classes. Where Pneumonia attacks both lungs, or is diffused over an extensive area, the case is one of great gravity, even though the degree of inflammation is comparatively moderate. Symptoms of Cerebral disturbance, as delirium or coma are always unpromising. But where the opposite is true, the Dyspnea not very urgent, the expectoration copious, and attended by little pain, and the heart's action not much accelerated, a favorable opinion



may be given, and we may cherish hopes that the Disease will terminate in Resolution. Typhoid Pneumonia is always to be regarded as full of danger, and the prognosis requires to be guarded. Sleeplessness and delirium, a dark, dry, and fissured tongue, are circumstances of discouragement. The Ratio of fatality from Pneumonia in general is said to be, in Massachusetts, one in fourteen; while in New York City it rises to one in eleven. The mortality is greatest in the variable months of Spring and Autumn.

### Morbid Anatomy.

The morbid appearances after death from Acute Pneumonia will depend upon the stage to which the affection had passed. The stage of Engorgement is marked by a livid or venous color of the pulmonary substance. Pressure communicates a feeling of crepitation to the

hand while at the same time, there is an effusion of a frothy or serous fluid. The organ bears some resemblance to the spleen, and, containing air in the vesicles, floats in water. In the second stage, or that of *Heepatization*, the Lung feels more solid and firm than is usual to the healthy subject, and sinks in water. When torn the surfaces present a red and granular structure, not very dissimilar to that of the Liver. The fluid which escapes on pressure is noticed to be scanty, thick, and bloody, and there is a want of the crepitant feeling observed in the first stage, since the cells of the tissue are now destitute of air. In the third stage that of *Suppuration*, or *grey Heepatization*, the blood has lost a portion of its coloring matter, or has been removed from the intercellular membrane by pressure of the accumulated pyxiform matter in the cells, and the color

of the lung is light reddish-yellow or grey. According to Laennec, the Lung may exhibit evidences of three stages at one and the same time. Circumscribed abscess of the Lung is an appearance of comparative rarity, and when noticed is generally consequent in the Chronic Affection. In some cases, these excavations appear to have been filled, after the expectoration of pus, by a substance similar to false membrane, while the portion of the pulmonary structure in their immediate vicinity is condensed or hardened. In the Typhoid Variety, Gangrene is occasionally seen as a result of the depraved condition of the system, either isolated or diffused over a considerable area.

### Treatment.

If the Disease is of a high inflammatory grade from the outset, it is proper to bleed, and venesection, where



demanded, should be practiced early, since if delayed till bronchial respiration sets in, its benefits will be less apparent. At the same time it is to be observed that cases demanding phlebotomy are less frequent than formerly, the flagrant and sthenic forms of Pneumonia having been replaced by those of a lower grade, in the majority of cases. Since the Cholera of 1832 there seems to be a general tendency of disease to favor the asthenic type. But where the opposite is the case, as previously remarked, Bleeding, both general and local will be of benefit. This effect may be still farther perpetuated by Tartarized Antimony, which may be given in the dose of one third of a grain over two hours. The patient should be kept as quiet as possible, and the Antiphlogistic Regimen

strictly enforced. Calomel may also be employed with advantage, at first in a full dose, and subsequently in more moderate quantities, insufficient to produce ptyalism. This is best when the disease has advanced to its second stage, and by its means we may hope to lessen the amount of lymph which tends to obstruct the vesicles. Should the Remedy have a tendency to pass off by the bowels, it may be advantageously combined with Opium. Where the skin is hot and dry, cold or tepid affusion to the surface is often very grateful to the patient, and of utility in moderating the general fever. The refrigerating Diaphoretics may be employed as occasion may require. Where the pulse becomes weak and frequent, the countenance shrunken, and the general evidences of a tendency



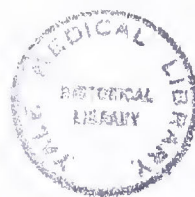
to the Typhoid condition is apparent, recourse should be had to the supporting and stimulating Remedies, as beef Tea, Wine, and Opium. The Carbonate of Ammonia is here of signal service. Says Professor Wood, in speaking of the Carbonate, "When the great oppression of breathing, the cool skin, the frequent pulse, and the sweats at night have indicated the probable approach of the third stage of the Disease, and the absolute necessity of supporting treatment, I do not think it going too far to say that I have repeatedly, in this condition, known it to be the main agent of safety to the patient." It probably operates, under such circumstances, not only by a general stimulation of the circulatory and nervous system, but also by a special excitation of the ultimate tissue of the Lungs concerned

in the respiratory function. Veratrum  
Viride is another Remedy which has  
been extolled in the more sthenic  
forms of Pneumonia. Dr Norwood  
was in the habit of giving eight drops  
of the saturated tincture repeated  
every three hours with the addition  
of a drop to each successive dose until  
the pulse was sufficiently reduced, or  
nausea and vomiting supervened. When  
the medicine is more than usually  
disposed to nauseate the effect may  
be counteracted by administering a  
little morphine. A method of treating  
Pneumonia by chloroform has recently  
been introduced by the German phy-  
sicians, and it is reported with favor-  
able results. When the Cough is harass-  
ing and constant and the expectora-  
tion scanty there would appear to be  
no objections to its employment by  
inhalation to a moderate degree.

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But it is almost unnecessary to state  
that all specific modes of treatment  
are to be deprecated. We may guide,  
but we cannot arrest the disease,  
and while we are to treat complica-  
tions as they arise, our chief endeavour  
should be to husband the energies of  
the sufferer, until nature gains an  
opportunity to reassert her sovereignty,  
and to break up the chain of morbid  
action.

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